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10/789,984	03/02/2004	Dong-young Moon	Q80223	9663

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EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT	PAPER NUMBER
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2621

MAIL DATE	DELIVERY MODE
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10/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/789,984

Applicant(s)

MOON, DONG-YOUNG

Examiner

Andy S. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/15/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-7 as filed on 8/15/07 have been considered but are moot in view of the new ground(s) of rejection.
2. The indicated allowability of claims 8-13 indicated on 5/22/07 is withdrawn in view of the newly discovered reference(s) to Song et al., (US Patent 6,061,711 hereinafter referred to as "Song"). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Civanlar et al., (hereinafter referred to as "Civanlar") in view of Song et al., (hereinafter referred to as "Song").

Civanlar discloses a multiplexing video decoding method for receiving bit streams (Civanlar: column 12, lines 35-40), each of said bit streams comprising a plurality of slices and received in a plurality of channels (Civanlar: column 6, lines 15-30), and decoding the bit stream of each of the plurality of channels in a multiplexed mode (Civanlar: column 10, lines 1-10), the multiplexing video decoding method comprising the steps of: decoding video signals, wherein the decoding includes decoding a predetermined unit of a bit stream of one channel from the

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plurality of channels (Civanlar: column 10, lines 10-20); sequentially switching to decode a predetermined unit of a bit stream for each of the other plurality of channels (Civanlar: column 10, lines 39-51); and decoding in a multiplexed mode bit streams of the plurality of a channels by repeating the above steps for a next slice in each of the plurality of channels (Civanlar: column 11, lines 15-60), as in claim 1. However, Civanlar fails to disclose obtaining a program state corresponding to a program counter value associated with a respective one of the plurality of channels. Song discloses a multi-tasking computing method for sequentially switching to decode a slice of an associated bit streams (Song: column 4, lines 30-55) for associated video program channel (Song: column 3, lines 35-41) by obtaining a program state (Song: column 9, lines 50-65) corresponding to a program counter value (Song: column 5, lines 20-40) associated with a respective one of a plurality of channels (Song: column 1, lines 65-67; column 2, lines 1-6) in order to maintain stream continuity while switching between multiple programs (Song: column 8, lines 35-45). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Song step of obtaining a program state corresponding to a program counter value as specified into the Civanlar method in order maintain continuity in the streams of the primary reference's multiplexing method. The Civanlar method, now incorporating the Song step of obtaining a program state, has all of the features of claim 1.

Regarding claim 2, the Civanlar method, now incorporating the Song step of obtaining a program state, that the predetermined unit is a slice of a bitstream (Civanlar: column 10, lines 15-20), as in the claim.

Regarding claim 3, the Civanlar method, now incorporating the Song step of obtaining a program state, discloses incrementing an index value for a register corresponding to one of the

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plurality of channels to obtain information for a current channel when a decoding switching function is called (Civanlar: column 9, lines 40-55), as in the claim.

Regarding claim 4, the Civanlar method, now incorporating the Song step of obtaining a program state, discloses that video parameters and a program status are to be decoded as specified (Civanlar: column 9, lines 30-35), as in the claims.

Regarding claim 5, the Civanlar method, now incorporating the Song step of obtaining a program state, discloses switching a task inside a waiting loop (Civanlar: column 11, lines 40-45), as in the claim.

Civanlar discloses a task switching method for switching channels to be decoded in signals of a plurality of channels in a multiplexing video decoding method (Civanlar: column 6, lines 15-30), the task switching method (Civanlar: figure 5), comprising the steps of: incrementing an index register value for a register corresponding to one of the plurality of channels to obtain information for a current channel when a task switching function is called (Civanlar: column 9, lines 40-56); and switching if video decoding of the current channel corresponding to the index value is enabled (Civanlar: column 11, lines 40-45), and otherwise, incrementing the index register value and then switching to a next task (Civanlar: column 11, lines 25-35), as in claim 6. However, Civanlar fails to disclose that the switching task is a finishing switching task that obtains a program state corresponding to a program counter value associated with a respective one of the plurality of channels. Song discloses a multi-tasking computing method for finishing task switching (Song: column 11, lines 5-65) if the video decoding of the current channel (Song: column 4, lines 30-35) corresponding to the index value is enabled (Song: column 8, lines 30-55) for associated video program channel (Song: column 3,

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lines 35-41) by obtaining a program state (Song: column 9, lines 50-65) corresponding to a program counter value (Song: column 5, lines 20-40) associated with a respective one of a plurality of channels (Song: column 1, lines 65-67; column 2, lines 1-6) in order to maintain stream continuity while switching between multiple programs (Song: column 8, lines 35-45). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Song step of obtaining a program state corresponding to a program counter value as specified into the Civanlar method in order maintain continuity in the streams of the primary reference's multiplexing method. The Civanlar method, now incorporating the Song step of obtaining a program state, has all of the features of claim 6.

Civanlar discloses a multiplexing video decoding apparatus for receiving bit streams (Civanlar: column 12, lines 35-40), each of said bit streams comprising a plurality of slices and received in a plurality of channels (Civanlar: column 6, lines 15-30), and decoding the bit stream of each of the plurality of channels in a multiplexed mode (Civanlar: column 10, lines 1-10), the multiplexing video decoding method comprising: a plurality of FIFO units for transmitting in a first in first out manner the bit streams of the plurality of channels in parallel (Civanlar: column 10, lines 25-35); a syntax processor for cyclically decoding the bit streams of the plurality of channels output from the plurality of FIFO units at a slice interval (Civanlar: column 10, lines 39-55); a video processor for reproducing the bit stream of a corresponding channel decoded by the syntax processor into video data according to a predetermined video reproduction format (Civanlar: column 10, lines 5-20), as in claim 7. However, Civanlar fails to disclose that the syntax processor obtains a program state corresponding to a program counter value associated with a respective one of the plurality of channels. Song discloses a multi-tasking computing

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apparatus with a syntax processor (Song: column 3, lines 65-67; column 4, lines 1-5) for cyclically decoding a slice of an associated bit streams (Song: column 4, lines 30-55) for associated video program channel (Song: column 3, lines 35-41) by obtaining a program state (Song: column 9, lines 50-65) corresponding to a program counter value (Song: column 5, lines 20-40) associated with a respective one of a plurality of channels (Song: column 1, lines 65-67; column 2, lines 1-6) in order to maintain stream continuity while switching between multiple programs (Song: column 8, lines 35-45). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Song syntax processor that obtains a program state corresponding to a program counter value as specified into the Civanlar decoder in order maintain continuity in the streams of the primary reference's multiplexing apparatus. The Civanlar apparatus, now incorporating the Song syntax processor that obtains a program state, has all of the features of claim 7.

Civanlar discloses a multiplexing video decoding apparatus for receiving bit streams (Civanlar: column 12, lines 35-40), each of said bit streams comprising a plurality of slices and received in a plurality of channels (Civanlar: column 6, lines 15-30), and decoding the bit stream of each of the plurality of channels in a multiplexed mode (Civanlar: column 10, lines 1-10), the multiplexing video decoding method comprising: a plurality of FIFO units for transmitting in a first in first out manner the bit streams of the plurality of channels in parallel (Civanlar: column 10, lines 25-35); a syntax processor for cyclically decoding the bit streams of the plurality of channels output from the plurality of FIFO units at a slice interval (Civanlar: column 10, lines 39-55); a video processor for reproducing the bit stream of a corresponding channel decoded by the syntax processor into video data according to a predetermined video reproduction format

(Civanlar: column 10, lines 5-20), as in claim 8. However, Civanlar fails to disclose that the syntax processor further comprises: a plurality of stacks, each of said plurality of stacks respectively storing a program counter value of a channel to be decoded; an index register for generating an index value for selecting a channel to be decoded from the plurality of stacks; and a processor for selecting a channel to be decoded by slice by cyclically incrementing the index value of the index register and to obtain a program state corresponding the program counter value that has been pushed into the respective one of the plurality of stacks for the channel. Song discloses a multi-tasking computing apparatus with a syntax processor (Song: column 3, lines 65-67; column 4, lines 1-5) including a plurality of stacks (Song: column 11, lines 45-62), each of the stacks storing a program counter value (Song: column 5, lines 20-40) of a channel (Song: column 1, lines 65-67; column 2, lines 1-6) to be decoded (Song: column 4, lines 30-45); an index register for generating an index for selecting a channel to be decoded from the plurality of stacks (Song: column 8, lines 5-21); and a processor for selecting a channel to be decoded by slice by cyclically incrementing the index value of the index register (Song: column 12, lines 65-67; column 13, lines 1-15) and to obtain a program state (Song: column 8, lines 50-65) corresponding to the program counter value (Song: column 11, lines 40-50) that has been pushed into the respective one of the plurality of the stacks for the channel (Song: column 11, lines 55-65) in order to maintain stream continuity while switching between multiple programs (Song: column 8, lines 35-45). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Song syntax processor that obtains a program state corresponding to a program counter value as specified into the Civanlar decoder in order maintain continuity in the streams of the primary reference's multiplexing apparatus. The

Civanlar apparatus, now incorporating the Song syntax processor that obtains a program state, has all of the features of claim 8.

Regarding claims 9-10, the Civanlar apparatus, now incorporating the Song syntax processor that obtains a program state, has wherein the syntax processor switches (Song: column 10, lines 5-20) a decoding task (Song: column 4, lines 30-50) immediately after decoding a slice (Civanlar: column 10, lines 38-50) unit (Song: column 1, lines 15-20), as in the claims.

Regarding claims 11-12, the Civanlar apparatus, now incorporating the Song syntax processor that obtains a program state, has wherein the syntax processor further includes a macroblock decoder to extract bit stream size and command information for a channel (Civanlar: column 9, lines 40-50), as in the claims.

Regarding claim 13, the Civanlar apparatus, now incorporating the Song syntax processor that obtains a program state, has wherein said index register further generates an index value for selecting one of said plurality of FIFO units to obtain video bit stream information (Civanlar: column 10, lines 25-35), as in the claim.

Conclusion

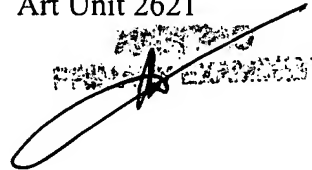
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andy S. Rao
Primary Examiner
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A handwritten signature in black ink, appearing to read 'ASR', is written over a rectangular stamp. The signature is fluid and cursive.

asr
October 25, 2007